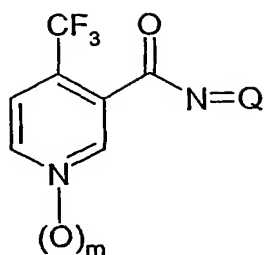


CLAIMS

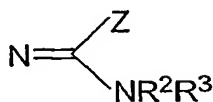
1. A compound of the formula (I):



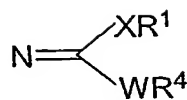
(I)

5 wherein:

N=Q is a formula (A) or (B):



(A)



(B)

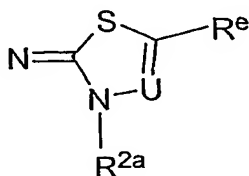
Z is YR¹ or NR⁵R⁶;

or when Z is YR¹, R¹ and R³ may form together with the adjacent -Y-C-NR²- atoms,

10 a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R⁷ groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R⁷;

or when Z is YR¹, R¹ and R³ may form together with the adjacent -Y-C-NR²- atoms, a

15 group (A²):

(A²)

Y, X and W are each independently O or S;

or R¹ and R⁴ may form together with the adjacent -X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring,

20 unsubstituted or substituted by one or more R⁷ groups or one of the ring carbon atoms may form a carbonyl group;

- R^1 is (C_1-C_8) alkyl, (C_3-C_6) alkenyl, (C_3-C_6) alkynyl or (C_3-C_8) cycloalkyl, which last four mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is (C_3-C_8) cycloalkyl- (C_1-C_6) alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$ heterocyclyl; or when Y is O is
- 5 (C_1-C_6) alkylamino, $NH(C_3-C_8)$ cycloalkyl or $NH(CH_2)_sR^{11}$;
- R^{2a} is (C_1-C_8) alkyl, (C_3-C_6) alkenyl, (C_3-C_6) alkynyl, (C_3-C_8) cycloalkyl, (C_1-C_6) alkoxy, (C_3-C_6) alkenyloxy, (C_3-C_6) alkynyloxy, (C_1-C_6) alkylamino, di- (C_1-C_6) alkylamino, $NHCO(C_1-C_6)$ alkyl, $NHSO_2(C_1-C_6)$ alkyl, $CO(C_1-C_6)$ alkyl or $SO_2(C_1-C_6)$ alkyl which last
- 10 thirteen mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is (C_3-C_8) cycloalkyl- (C_1-C_6) alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$ heterocyclyl, OH , SO_2R^{11} , NH_2 , $NHCOR^{11}$, NHR^{11} , $NH(C_3-C_8)$ cycloalkyl, $NH(CH_2)_sR^{11}$, $O(CHR^{10})_rR^{11}$; $O(CH_2)_r$ heterocyclyl or $N=C[(C_1-C_6)alkyl]_2$; or is (C_3-C_6) alkenyl substituted by R^{11} ;
- 15 R^2 and R^5 are each independently R^{2a} or H;
- R^3 and R^6 are each independently H or R^1 ;
- R^4 is (C_1-C_6) alkyl substituted by R^8 ; or is (C_3-C_6) alkenyl, (C_3-C_6) alkynyl or (C_3-C_8) cycloalkyl which last three mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is (C_3-C_8) cycloalkyl- (C_1-C_6) alkyl unsubstituted or
- 20 substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$ heterocyclyl; or when W is O, R^4 is (C_1-C_6) alkylamino;
- or R^2 and R^3 together with the adjacent N atom form a 3 to 8-membered unsaturated, partially saturated or saturated heterocyclic ring which optionally contains up to three additional N, O or S atoms and which ring is unsubstituted or
- 25 substituted by one or more R^7 groups;
- R^7 is R^8 , R^4 , (C_1-C_6) alkyl or CH_2OH ;
- R^8 is halogen, (C_1-C_6) alkoxy, (C_1-C_6) haloalkoxy, $S(O)_nR^{12}$, CN, $CO_2(C_1-C_6)$ alkyl, CO_2H , NO_2 , OH, amino, (C_1-C_6) alkylamino, di- (C_1-C_6) alkylamino, carbamoyl, (C_1-C_6) alkylcarbamoyl, di- (C_1-C_6) alkylcarbamoyl, $CH[O(C_1-C_6)alkyl]_2$, (C_3-C_6) alkenyloxy, (C_3-C_6) alkynyloxy or $O(CH_2)_rR^{11}$;
- 30 R^9 and R^{10} are each independently H, (C_1-C_6) alkyl or (C_1-C_6) haloalkyl;

R^{11} is aryl unsubstituted or substituted by one or more groups selected from (C_1-C_6) alkyl, (C_1-C_6) haloalkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, (C_3-C_8) cycloalkyl, $-(CH_2)_uR^{13}$, heterocyclyl, halogen, (C_1-C_6) alkoxy, (C_1-C_6) haloalkoxy, $S(O)_nR^{12}$, CN, $CO_2(C_1-C_6)$ alkyl, NO_2 , amino, (C_1-C_6) alkylamino and di- (C_1-C_6) alkylamino;

5 R^{12} is (C_1-C_6) alkyl or (C_1-C_6) haloalkyl;

R^{13} is phenyl unsubstituted or substituted by one or more groups selected from halogen, (C_1-C_6) alkyl and (C_1-C_6) haloalkyl;

R^e is H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, (C_3-C_8) cycloalkyl, (C_3-C_8) cycloalkyl- (C_1-C_6) alkyl, halogen, (C_1-C_6) alkoxy, (C_1-C_6) haloalkoxy, $S(O)_nR^{12}$, (C_3-C_6) alkenyloxy, (C_3-C_6) alkynyloxy, $-(CH_2)_pR^{11}$, heterocyclyl, CN, $CO_2(C_1-C_6)$ alkyl, NO_2 , amino, (C_1-C_6) alkylamino, di- (C_1-C_6) alkylamino or $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

U is N or CH,

m, s and u are each independently 0 or 1;

15 n is 0, 1 or 2;

p is 0, 1, 2 or 3;

r is 0 or an integer from 1 to 6; and each heterocyclyl in the above mentioned radicals is independently a mono or bicyclic heterocyclic radical having 3 to 7 ring atoms in each ring and 1 to 4 hetero atoms selected from N, O and S;

20 with the proviso that in (A) when Z is NR^5R^6 then up to three of R^2 , R^3 , R^5 and R^6 are not simultaneously H;

or a pesticidally acceptable salt thereof.

2. A compound or a salt thereof as claimed in claim 1, wherein Z is YR^1 ;

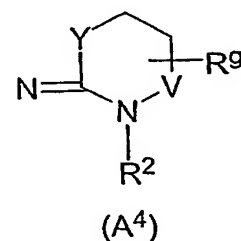
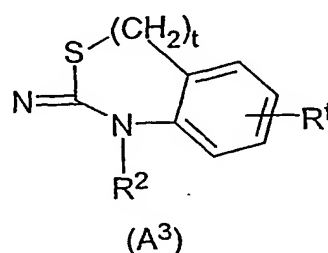
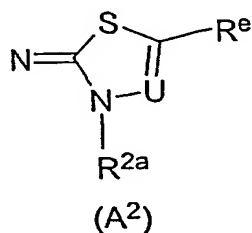
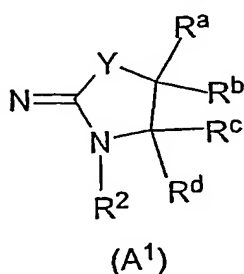
25 or when Z is YR^1 , R^1 and R^3 may form together with the adjacent $-Y-C-NR^2-$ atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R^7 ;

30 one of X and W is O and the other is S;

or R^1 and R^4 may form together with the adjacent $-X-C-W-$ group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring,

unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl group.

3. A compound or a salt thereof as claimed in claim 1 or 2, wherein R^1 is (C₁-C₈)alkyl or (C₃-C₆)alkenyl, which groups are unsubstituted or substituted by one or more groups selected from (C₁-C₄)alkoxy, S(O)_nR¹² and OH; or is -(CR⁹R¹⁰)_pR¹¹.
4. A compound or a salt thereof as claimed in any one of claims 1 to 3, wherein R^2 is H, (C₃-C₆)alkenyl, (C₃-C₆)alkynyl, (C₁-C₆)alkoxy, (C₃-C₆)alkenyloxy, (C₃-C₆)alkynyloxy, -(CR⁹R¹⁰)_pR¹¹, -(CR⁹R¹⁰)_pheterocyclyl, NHR¹¹ or O(CH₂)_rR¹¹; or is (C₁-C₈)alkyl unsubstituted or substituted by a di-(C₁-C₄)alkylamino group.
5. A compound or a salt thereof as claimed in any one of claims 1 to 4, wherein R^3 is (C₁-C₈)alkyl or (C₃-C₆)alkenyl, which groups are unsubstituted or substituted by an (C₁-C₄)alkoxy or OH group; or is H or -(CR⁹R¹⁰)_pR¹¹.
6. A compound or a salt thereof as claimed in any one of claims 1 to 5, wherein R^4 is (C₁-C₈)alkyl substituted by (C₁-C₄)alkoxy or OH; or is (C₃-C₆)alkenyl, (C₃-C₆)alkynyl or (C₃-C₈)cycloalkyl which last three mentioned groups are unsubstituted or substituted by an (C₁-C₄)alkoxy or OH group; or is (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl which cycloalkyl is unsubstituted or substituted by an (C₁-C₄)alkoxy or OH group; or is -(CR⁹R¹⁰)_pR¹¹ or -(CR⁹R¹⁰)_pheterocyclyl.
7. A compound or a salt thereof as claimed in claim 1, wherein N=Q is a formula (A) in which Z is YR¹ and R¹ and R³ form together with the adjacent -Y-C-NR²- atoms, a heterocyclic ring which is of formula (A¹), (A²), (A³) or (A⁴):



wherein:

Y is O or S;

U is N or CH;

V is O or CH₂;

5 t is 0 or 1;

R^a, R^b, R^c and R^d are each independently selected from H, (C₁-C₆)alkyl, (C₁-C₆)haloalkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₈)cycloalkyl, halogen, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, S(O)_nR¹², (C₂-C₆)alkenyloxy, (C₂-C₆)alkynyloxy, R¹¹, heterocyclyl and O(CH₂)_rR¹¹ wherein r is 0 or 1;

10 or R^a and R^b, or R^c and R^d may form a carbonyl or imino group;

R^e and R^f are each independently selected from H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₈)cycloalkyl, (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl, halogen, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, S(O)_nR¹², (C₂-C₆)alkenyloxy, (C₂-C₆)alkynyloxy, -(CH₂)_pR¹¹, heterocyclyl, CN, CO₂(C₁-C₆)alkyl, NO₂, amino, (C₁-C₆)alkylamino, di-(C₁-

15 C₆)alkylamino and O(CH₂)_rR¹¹ wherein r is 0 or 1;

R^g is H, (C₁-C₆)alkyl, halogen, (C₁-C₆)alkoxy, CO₂(C₁-C₆)alkyl or R¹¹;

R^{2a} is (C₁-C₆)alkyl unsubstituted or substituted by one or more groups selected from halogen, (C₁-C₆)alkoxy, CH[O(C₁-C₆)alkyl]₂, CN, CO₂(C₁-C₆)alkyl and CO₂H; or is (C₃-C₆)alkenyl unsubstituted or substituted by one or more halogen or phenyl

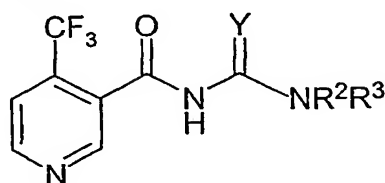
20 groups; or is (C₃-C₆)alkynyl, (C₃-C₈)cycloalkyl, (C₃-C₈)cycloalkyl-(C₁-C₆)alkyl, (C₁-C₆)alkoxy, (C₃-C₆)alkenyloxy or (C₃-C₆)alkynyloxy; or is -(CHR¹⁰)_pR¹¹ wherein R¹⁰ is H or (C₁-C₈)alkyl, p is 0 or 1 and R¹¹ is phenyl unsubstituted or substituted by one or more groups selected from halogen, (C₁-C₆)haloalkyl, (C₁-C₆)alkoxy, (C₁-

25 C₆)haloalkoxy and phenoxy unsubstituted or substituted by one or more groups selected from halogen and (C₁-C₆)haloalkyl; or is O(CHR¹⁰)_rR¹¹ wherein R¹⁰ is H or (C₁-C₆)alkyl, r is 1 and R¹¹ is phenyl unsubstituted or substituted by one or more groups selected from (C₁-C₆)haloalkyl, (C₁-C₆)alkoxy and NO₂; and

R² is R^{2a} or H.

30 8. A process for the preparation of a compound of formula (I) or a salt thereof as defined in any one of claims 1 to 7, which process comprises:

a) where N=Q is a formula (A) in which Z is YR^1 , m is zero, and R^1 , R^2 and R^3 are as defined in claim 1, the reaction of a compound of formula (II):



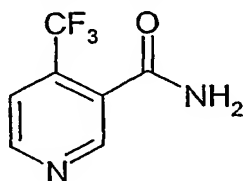
(II)

5 wherein Y , R^2 and R^3 are as defined in formula (I), with a compound of formula (III):



wherein R^1 is as defined in formula (I) and L is a leaving group in the presence of a base; or

b) where N=Q is a formula (A) in which Z is YR^1 , m is zero, R^3 is H, and R^1 and R^2 are as defined in formula (I), the 1-pot reaction of a compound of formula (IV):



(IV)

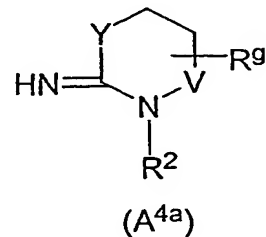
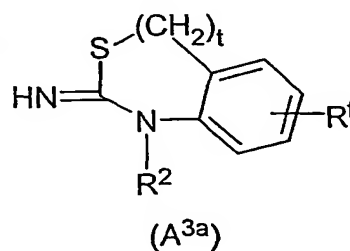
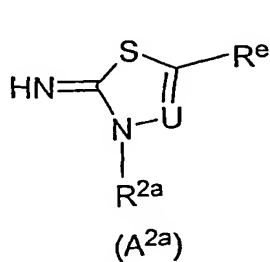
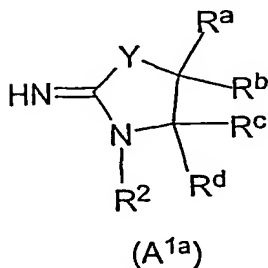
with a strong base, and an isothiocyanate or isocyanate compound of formula (V):



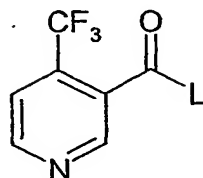
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wherein R^2 is as defined in formula (I) to give the corresponding acylthiourea or acylurea intermediate of formula (II) above wherein R^3 is H, which is reacted with a compound of formula (III) as described in above process claim a); or

c) where N=Q is a formula (A) which is a heterocyclic ring of formula (A¹), (A²), (A³) or (A⁴), wherein the various symbols are as defined in claim 7, the acylation of the corresponding compound of formula (A^{1a}), (A^{2a}), (A^{3a}) or (A^{4a}):



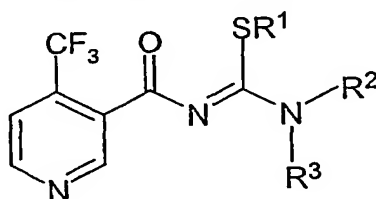
wherein the various symbols are as defined in claim 7, with a compound of formula (VI):



(VI)

5 wherein L is a leaving group; or

d) where N=Q is a formula (A) in which Z is NR^5R^6 , m is zero, and R^2 , R^3 , R^5 and R^6 are as defined in formula (I), the reaction of a compound of formula (VII):



(VII)

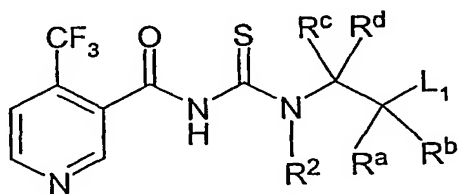
10 wherein R^1 , R^2 and R^3 are as defined in formula (I), with a compound of formula (VIII):



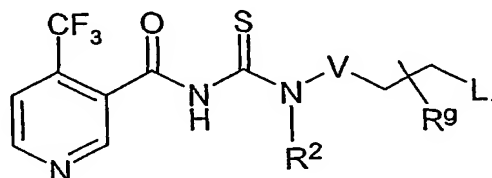
(VIII)

wherein R^5 and R^6 are as defined in formula (I), in the presence of a base; or

e) where N=Q is a formula (A) which is a heterocyclic ring of formula (A¹) or (A⁴),
 15 m is zero, Y is S and the other symbols are as defined in claim 7, the cyclisation reaction of a compound of formula (IX) or (X) respectively:



(IX)

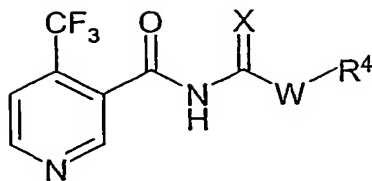


(X)

wherein the various symbols are as defined in formula (I) and L_1 is a leaving group, in the presence of a base; or

20 f) where m is zero and N=Q is a formula (B) in which R^1 and R^4 are as defined in formula (I), the reaction of a compound of formula (XI):

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(XI)

wherein X, W and R⁴ are as defined in formula (I), with a compound of formula (III) as defined in the above process a), in the presence of a base; or

- 5 g) where Q is as defined above, and m is 1 the oxidation of a corresponding compound in which m is 0; and
if desired, converting a resulting compound of formula (I) into a pesticidally acceptable salt thereof.
- 10 9. A pesticidal composition comprising a compound of formula (I) or a pesticidally acceptable salt thereof as defined in any one of claims 1 to 7, in association with a pesticidally acceptable diluent or carrier and/or surface active agent.
- 15 10. The use of compounds of the formula (I) or their salts as claimed in any of claims 1 to 7 as pesticides.